

## **ABSTRACT**

The present invention relates to a structural reinforcement of the fan wheel of a mixed flow fan. The structure of the fan wheel comprises a hub and several blades attached to the outer rim of this hub. One side of the hub consists of a hollow space, the other side consists of a flat surface. The blades are attached to the outer rim of the hub in equal distances. The outer rim of the hub is beveled. The flat surface acts as the air inlet side, the hollow side acts as the air outlet side. The surfaces of the blades are to bend. The part connecting the blades to the hub is also to bend. Therefore cambered channels form in the gaps between the blades, which are arranged in equal distances. Through use of this structure the operational area for the characteristic curve of the mixed flow fan is increased and the possibility of a loss of speed is reduced. Thus the overall performance of the fan is improved.